

National Fire Protection Association (NFPA) Standards related to training educators' professional qualifications, fire fighter training requirements, and airport emergency services standards.

A careful review was conducted of NFPA documents related to the operation and conducting of a training program. The NFPA documents are extensive. There are contained within the documents 19 standards that relate to firefighting professional training, fire fighter instructor qualifications and requirements for providing the necessary emergency response at an airport. The scope and depth of this information is extensive. A new training facility administration should adhere to these industry consensus standards and seek training instructors who have an extensive background in applying the elements of the various standards. Running an emergency services training facility is difficult and requires adherence to safe Standard Operating Procedures (SOPs) and industry best practices. A facility needs to provide a safe, quality training experience to its students if it desires to be competitive in the market place today.

Schools that place a premium on making money and not on the quality of the training provided will soon find that students look elsewhere for their training. At this point in time, the aviation emergency services have a large selection of facilities to send their students. It would be beneficial for a new training facility to provide a higher level of training and unique training elements than those that are not currently available at other facilities. Both structural and airport fire training needs to be offered as well as courses in many of the other disciplines such as HAZMAT and industrial brigade training. Below is a brief narrative of the 19 standards related to the emergency services training. The NFPA codes contain many more documents that relate to the construction of facilities, extinguishing agents and their use, sprinklers and fire proofing of buildings.

(1) *NFPA 402, Guide for Aircraft Rescue and Fire Fighting Operations (In Part-*

This guide provides information relative to aircraft rescue and fire fighting operations and procedures for airport and structural fire departments. These procedures deal with aircraft not involved in military operations. They can, however, be generally applicable to military aircraft not operating in an armament mode. For specific guidance in these matters, consult the commander or fire chief of the nearest military air installation.

Statistics indicate that approximately 80 percent of all major commercial aircraft accidents occur in the critical rescue and fire fighting access area. This is the primary response area for airport-based ARFF services. Approximately 15 percent of the accidents occur in the approach areas. In such instances the community/mutual services could be the prime responders. Some airport fire departments have the total fire prevention and fire protection responsibility for the entire airport, including structural firefighting responsibilities in terminal buildings, aircraft hangars, airport hotels, cargo buildings, and other facilities.

Procedures for these fire prevention and protection operations are not covered in this guide.

This guide has been prepared for the use and guidance of those charged with the responsibility of providing and maintaining aircraft rescue and fire fighting (ARFF) services on airports. The guide's content is also intended for the use of structural fire departments to assist them in developing methods to effectively handle aircraft incidents that might occur within their jurisdiction. It also provides for a basis of understanding, relative to emergencies on airports that would enhance structural fire departments' effectiveness when called to assist airport fire departments.

Providing protection for the occupants of an aircraft takes precedence over all other operations. Fire control is frequently an essential condition to ensure such survival. The objectives of the airport fire department should be to respond to any aircraft emergency in the minimum possible time and employ rescue and fire fighting techniques effectively. These objectives can be accomplished when properly trained personnel work together as a team and apply the operational procedures presented in this guide.

Impact: Insurance underwriters and risk organizations that provide liability insurance for airports look closely at airport organizations to see that the emergency services plan follows national and international consensus standards and best practices. Insurance underwriters would look closely at any training facility to assure that their Standard Operating Procedures (SOPs) closely follow the guidelines of NFPA training and emergency services standards for airports as well as structural fire fighting.

(2) *NFPA 403, Standard for Aircraft Rescue and Fire Fighting Services at Airports (In Part)--*

This standard is prepared for the use and guidance of those charged with providing and maintaining aircraft rescue and fire fighting services at airports. The principal objective of a rescue and fire fighting service is to save lives. For this reason, the preparation for dealing with an aircraft accident or incident occurring at, or in the immediate vicinity of, an airport is of primary importance because it is within this location that the greatest opportunity to save lives exists. The possibility of, and need for, extinguishing a fire that can occur either immediately following an aircraft accident or incident, or at any time during rescue operations, must be assumed at all times.

The most important factors bearing on effective rescue in a survivable aircraft accident are the training received, the effectiveness of the equipment, and the speed with which personnel and equipment designated for rescue and fire fighting purposes can be put to use.

This standard points to the need to develop a specialized training program to meet the needs of providing the specialized requirements of an airport emergency situation. It goes beyond the minimum requirements set within the FAA Part 139 regulatory requirement. It states that a carefully organized training program should be developed to meet the qualification requirements of NFPA 1003, Standard for Airport Fire Fighter Professional Qualifications. The following guidelines are offered for structuring such a program.

The objectives of a training program for aircraft rescue and fire fighting personnel at airports should be to accomplish the following:

- (a) Teach the safe application of recognized practices and procedures*
- (b) Develop and maintain the confidence and competency of all personnel assigned ARFF duties*
- (c) Instill the concept of professionalism*
- (d) Serve as a source of accurate technical information whereby the lessons gained from aircraft accidents or incidents are properly analyzed and the information disseminated to others concerned with ARFF operations*
- (e) Enhance the esprit de corps of aircraft rescue and fire fighting personnel by creating an appreciative awareness of the hazards and dangers they may face in carrying out ARFF operations*

Phases of Training.

Training of aircraft rescue and fire fighting personnel should include seven phases. Training in all phases should be conducted for support personnel used as auxiliary fire fighters and for full-time aircraft rescue and fire fighting personnel. Because of the factor of time availability for schooling, the depth into which subjects are covered will vary, but the scope should not be reduced for auxiliary fire fighters.

Indoctrination.

Indoctrination training should include the following:

- (a) The rules and regulations applicable to ARFF services*
- (b) Knowledge of the basic duties and responsibilities and those of co-workers*
- (c) Emergency response procedures*
- (d) The command structures for administration and operations*
- (e) The importance of practicing occupational safety*

Operating ARFF Equipment.

All aircraft rescue and fire fighting personnel should be capable of effectively handling fire and rescue equipment under varied conditions of terrain and weather. The aim of training should be to ensure that every fire fighter is so well versed in handling all types of appliances and tools used in ARFF operations that under stressful conditions individual fire fighters can take effective action without the need for specific direction. Some of the items that should be covered are included in the following list:

- (a) Complete knowledge of each tool and piece of equipment.*
- (b) Location of each piece of equipment and tool carried on each vehicle.*
- (c) Method of using each piece of equipment and tool, with emphasis on personal safety factors.*
- (d) Special handling precautions for the use of power tools.*
- (e) Knowledge of, and training in, the use of breathing apparatus and other protective equipment.*
- (f) Techniques employed in utilizing the available communication equipment.*
- (g) Knowledge of the apparatus, its built-in equipment, including the pump and its performance capabilities, the agents carried and their delivery systems.*
- (h) Actual operation of all vehicle controls and behind-the-wheel driver training under circumstances including negotiating obstacles and muddy or snow-covered soil conditions. This is done to provide a degree of assurance that the vehicle will not get bogged down or damaged during emergencies.*
- (i) Knowledge of departmental policies on positioning of apparatus for tactical service at accidents/incidents under the variety of possible conditions to be encountered.*
- (j) Record keeping to document the efficiency and effectiveness of the various vehicles utilized by the airport fire department.*

Fire Behavior and Fire Suppression.

Aircraft rescue and fire fighting personnel should possess a sound knowledge of fire behavior. Instruction in this phase should include the following:

- (a) Principles of combustion, with emphasis on the types of aircraft fuels*
- (b) How fire propagates through the effects of heat conduction, convection, and radiation*
- (c) Influence of fuel distribution on heat production*
- (d) Principles of fire suppression by the various types of agents utilized in aircraft rescue and fire fighting operations*

- (e) *Live fire exercises that include but are not limited to exterior fuel fires, interior fires, engine fires, wheel fires, and fires involving on-board auxiliary power units*
- (f) *Effects of heat exposure on individuals*

Training should be given covering the advantages and disadvantages of each fire extinguishing agent employed. Every opportunity should be taken to use the agents on realistic training fires. Each routine equipment test should be used as a training exercise to provide experience in the proper handling of the equipment, and to establish the proper technique of application of each agent available.

Rescue and Fire Fighting Procedure.

Care should be taken to ensure that aircraft rescue and fire fighting personnel fully understand that to achieve the objective of safeguarding the lives of those involved in an aircraft accident requires that fire in the practical critical area be controlled quickly and that this area be kept secure. Strict discipline should be maintained to ensure that fire suppression agents are not expended on fire outside the PCA until it is positively established that the immediate and long-term security of the PCA will not be jeopardized. Personnel should be given thorough instructions in the following subject areas:

- (a) *Standard Operating Procedures (SOPs) to be expected from the aircraft crew members under specified circumstances*
- (b) *Locations within aircraft where victim concentration may be anticipated under accident conditions of various types*
- (c) *Behavior patterns of individuals involved in major disasters*
- (d) *Means of preventing or minimizing panic*
- (e) *Means of gaining entry through normal aircraft openings*
- (f) *Locations most suitable for forcible entry into the aircraft*
- (g) *Requirements of setting up triage and treatment areas that should be part of the airport/community emergency plan (see NFPA 424, Guide for Airport/Community Emergency Planning)*
- (h) *Methods of carrying injured persons (one-person and by teams)*

Familiarization with Local Terrain.

A thorough knowledge of the terrain of the airport and its immediate vicinity is essential. The existence of any areas that may from time to time become impassable because of weather or other conditions (tides, growth of brush, etc.) should be known to all crew members. Training should include actual ARFF vehicle operations over primary and secondary travel routes on the airport and runway overrun areas. Familiarization with areas outside the airport boundary to which the on-airport ARFF equipment might be authorized to respond can be accomplished with other vehicles. Personnel should also receive training during

periods of diminished visibility. The instruction program should include the following:

- (a) Locations of obstacles both temporary and permanent*
- (b) Locations of exit points (gates and/or frangible sections) in the security fence*
- (c) Location of rendezvous points for mutual aid apparatus as planned in the airport/community emergency plan*
- (d) Areas that might become impassable in inclement weather*
- (e) Availability of helicopters, boats, swamp buggies, air-cushion vehicles, or other off-road conveyances*
- (f) Operation of each ARFF vehicle and its capability to negotiate the existing terrain under the various conditions that may be anticipated*

Aircraft Familiarization Training.

Aircraft rescue and fire fighting personnel should be familiar with the following:

- (a) Locations of phone jacks on different types of aircraft*
- (b) Availability and method of operation of aircraft escape devices*
- (c) Location of aircraft batteries, and means of disconnect*
- (d) Amount and type of aircraft fuel carried and the fuel storage locations in each aircraft*
- (e) Location and quantity of oxygen carried*
- (f) Access to wheel wells, engine accessory compartments, and other areas of critical concern*
- (g) Fire behavior characteristics and locations in the aircraft of combustible metals (magnesium, titanium), plastics (cabin liners, seating), combustible insulation (for electrical wiring and sound deadening), hydraulic fluids, lubricating oil, rubber, and similar combustibles and flammable materials*

Emergency Medical Training.

Every member of the airport ARFF services should be given initial and recurrent training in emergency medical procedures.

Impact: As the training facility develops its course curriculums, it needs to make certain that it represents the latest thinking and best practices of the aviation industry. This standard is considered the Bible of the ARFF response. It provides significant information on all the aspects of providing ARFF services at an airport. In FY 2003, this document was updated and tried to address the manpower issues related to providing an ARFF response. This is important because for the very first time a national consensus standard has been developed a minimum staffing level for all major ARFF vehicles required to make a emergency response at airports. This document goes further in suggesting that a detailed task analysis be performed to determine further staffing

requirements for the emergency services organization. As airports proceed with these requirements, they will usually need to increase staffing levels of their organizations. This should ultimately point to the need to have additional fire fighters trained in each organization and thus a larger group of potential students for training facilities.

The 403 Standard goes into great detail in describing the seven phases of an ARFF fire fighters training. After reviewing this information, it can be seen that the amount of required knowledge necessary to make an ARFF emergency response dictates that a coordinated training program be developed. Most successful training facilities today align themselves with a community college or a higher institution of learning so that they can offer a professional degree program. Training programs that can provide college credit offer fire fighters a natural progression for professional advancement. Training schools that go beyond the minimum requirements to meet the FAA's live-fire training requirement have the greatest numbers of students participate in training at their facilities. Dallas Fort Worth (TX), Lake Superior College MN), Pittsburg International Airport (PA), and the Northeast Training Facility at Rochester (NY), are examples of FAA funded schools that are affiliated with college programs.

(3) *NFPA 405, Standard Practice for the Recurring Proficiency Training of Aircraft Rescue and Fire-Fighting Services (In Part)—*

This document is intended for the use of those charged with maintaining ARFF services at airports and establishes the basis for a recurring training program that focuses on measurable performance criteria. This recommended practice addresses the development of effective, coordinated aircraft rescue and fire control operations with a minimum exposure to risk for participants and the environment. Results of evaluations conducted in accordance with the recommendations of this recommended practice should be recorded and maintained by means of a documented management system. Continuous broad-based training is fundamental to maintaining a proficient ARFF delivery system at airports.

ARFF personnel at airports should meet the performance objectives and requirements contained in NFPA 1003, Standard for Airport Fire Fighter Professional Qualifications, prior to assignment and thereafter should receive necessary recurring training that will enable them to consistently meet the recommendations of this recommended practice.

The provisions of this document should be considered fundamental to maintaining levels of professional competence of ARFF services at airports. This document is intended to be adopted as a model for the development of a proficient in-service training program for ARFF personnel at airports.ency of those persons charged with meeting the emergency services response at airports.

Impact: The FAA's, FAR Part 139 contains only one small paragraph that stipulates what subject matter is required to be studied to meet the requirements of the FAA

regulation. Its advisory circular series doesn't offer much more detail on the subject matter. On the other hand, the NFPA document covers the seven phases of training with a great deal more information of specific items that are to be covered. The FAA allows the airport to determine how extensive the training curricula is going to be, where as the NFPA provides the desired information that is to be covered to guarantee that the fire fighters get the level of training that the NFPA feels they need.

In FY 2004, this document will become a NFPA standard for meeting training requirements at airports. It provides guidance on measuring the competency of the training provided to airport fire fighters. This document contains the recommended performance criteria by which an authority having jurisdiction over Aircraft Rescue and Fire Fighting (ARFF) maintains proficiency and effective ARFF at airports. The fire chief will look at the quality of training offered at a facility and evaluate against this standard.

Just attending a training facility and getting their annual live-fire training card punched is no longer acceptable to the emergency services organization. They are now looking at the depth and detail of training provided by these facilities and their instructor corp. When investing their money in training at off-site facilities they are looking for the assurances that their people are getting the best education available for the money spent. This document is being used to measure the competency of the students attending distant training facilities.

(4) *NFPA 1000, Standard for Fire Service Professional Qualifications Accreditation and Certification Systems (In Part)--*

This standard establishes the minimum criteria for accrediting bodies; and for the assessment and validation of the process used to certify fire and related emergency response personnel to professional qualifications standards; and of non-engineering, fire-related, academic, degree-granting programs offered by institutions of higher education.

The purpose of this standard is to establish criteria and requirements applicable to organizations providing accreditation to and for those entities certifying fire and related emergency response personnel as having met or complied with a recognized national standard; and/or to and for non-engineering, fire-related, academic, degree-granting programs offered by institutions of higher education. Organizations that accredit certifying entities or that certify individuals to fire service professional qualifications standards or that accredit non-engineering, fire-related, academic, degree-granting programs offered by institutions of higher education shall meet the requirements of this standard.

The certifying entity shall ensure the safety and health of individuals participating in the evaluation process by complying with applicable NFPA standards (e.g.,

“NFPA 1500, Standard on Fire Department Occupational Safety and Health Program”) or equivalent standards adopted by the authority having jurisdiction.

Personal protective clothing, apparatus, equipment, and facilities utilized in the evaluation of candidates shall meet the applicable NFPA standard(s) as required in Chapters 4, 5, and 7 of “NFPA 1500, Standard on Fire Department Occupational Safety and Health Program”, or equivalent standards adopted by the authority having jurisdiction.

Fire service organizations, as public agencies, are open to public scrutiny and are held accountable for their actions. There is value in being able to demonstrate that the personnel of these agencies are certified as meeting standards of competency by an entity that has itself been evaluated by an independent, thorough, objective, and public process and approved (accredited) as meeting the requirements of the process. Accreditation establishes accountability for performance by putting competency on the record so that it can be evaluated on the record.

The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

Authority Having Jurisdiction.

The phrase “authority having jurisdiction” is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

The NFPA’s professional qualifications system is made up of “NFPA 1000, Standard for Fire Service Professional Qualifications Accreditation and

Certification Systems”, and the following 10 standards, which set the job performance requirements for a number of fire and related emergency service professions:

(5) NFPA 1001, Standard for Fire Fighter Professional Qualifications (In Part)--

This standard identifies the minimum job performance requirements for career and volunteer fire fighters whose duties are primarily structural in nature. The purpose of this standard is to specify the minimum job performance requirements for fire fighters. It is not the intent of the standard to restrict any jurisdiction from exceeding these requirements.

(6) NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications (In Part)--

This standard identifies the minimum job performance requirements for fire fighters who drive and operate fire apparatus. The purpose of this standard is to specify the minimum job performance requirements for service as a fire department emergency vehicle driver, pump operator, aerial operator, tiller operator, wildland apparatus operator, aircraft rescue and fire fighting apparatus operator, and mobile water supply apparatus operator.

(7) NFPA 1003, Standard for Airport Fire Fighter Professional Qualifications (In Part)--

This standard identifies the minimum job performance requirements for the airport fire fighter responsible for aircraft rescue and fire fighting. The purpose of this standard is to specify the minimum job performance requirements for service as an airport fire fighter. It is not the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements. For certification as an airport fire fighter, the candidate shall meet the requirements for Fire Fighter II defined in “NFPA 1001, Standard for Fire Fighter Professional Qualifications”; first responder operational level defined in Chapter 3 of “NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents”; and the requirements for airport fire fighter defined in this standard.

(8) NFPA 1006, Standard for Rescue Technician Professional Qualifications (In Part)--

This standard establishes the minimum job performance requirements necessary for fire service and other emergency response personnel who perform technical rescue operations. The purpose of this standard is to specify the minimum job performance requirements for service as a rescuer in an emergency response organization.

(9) *NFPA 1021, Standard for Fire Officer Professional Qualifications (In Part)--*

This standard identifies the performance requirements necessary to perform the duties of a fire officer and specifically identifies four levels of progression. The purpose of this standard is to specify the minimum job performance requirements for service as a fire officer. The intent of the standard is to define progressive levels of performance required at the various levels of officer responsibility. The authority having jurisdiction has the option to combine or group the levels to meet its local needs and to use them in the development of job descriptions and specifying promotional standards.

(10) *NFPA 1035, Standard for Professional Qualifications for Public Fire and Life Safety Educator (In Part)--*

This standard identifies the levels of professional performance required for public fire and life safety educators, public information officers, and juvenile fire-setter intervention specialists. It specifically identifies the job performance requirements (JPRs) necessary to perform as a public fire and life safety educator, a public information officer, and a juvenile fire-setter intervention specialist. The purpose of this standard is to specify the job performance requirements for serving as a public “fire and life safety educator”, as a public information officer, and as a juvenile fire-setter intervention specialist. It is not the intent of this standard to restrict any jurisdiction from exceeding minimum requirements of fire and burn prevention or including other life safety, injury prevention, public information, or juvenile fire-setter intervention issues.

It is the organization’s responsibility to ensure that a public fire and life safety educator, public information officer, or juvenile fire-setter intervention specialist is trained to the prescribed level, as set forth in this standard, prior to engaging in those duties.

The job performance requirements for a public fire and life safety educator, public information officer, or juvenile fire-setter intervention specialist shall be completed in accordance with recognized practices and procedures or as defined by law or by the authority having jurisdiction.

This document is intended to apply not only to fire service educators, but to all those dedicated to the prevention of injury and loss of life and property through education. By encompassing administration and ongoing planning and development, effective public education efforts go beyond the delivery of programs. The primary mission of every fire department is to protect lives and save property. Public fire and life safety education should be an integral part of every fire department’s responsibility, function, and philosophy.

It is essential that training is available for the public fire and life safety educator, public information officer, and juvenile fire-setter intervention specialist, to ensure that they can perform the job performance requirements (JPRs). Those training agencies with responsibility in these areas are strongly encouraged to develop and implement training programs to meet this standard. For the skills and knowledge not specifically addressed in this standard, it is the responsibility of the authority having jurisdiction to define minimum levels.

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Listed-- The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

An activity is a component of a fire and life safety education program. Activities include lessons, public presentations, demonstrations, safety fairs, home inspections, news releases, media interviews, and billboards. A fire and life safety education program utilizes multiple activities to achieve program goals. For example, a department can have a home safety program. The program includes home inspections by engine company personnel, public service announcements on local radio and television, billboards on major highways, and

presentations to community groups. An organization's public fire and life safety strategy is the comprehensive organizational plan designed to eliminate or mitigate risks that endanger lives, health, property, or the environment through public fire and life safety education programs. [See Figure A-2-2.1(a).]



Figure A-2-2.1(a) Fire and life safety education program components.

The strategy can include collaborative partnerships with other community, state, and national organizations and agencies. It is the result of a planning process that begins with determining community needs and issues. [See Figure A-2-2.1(b).]

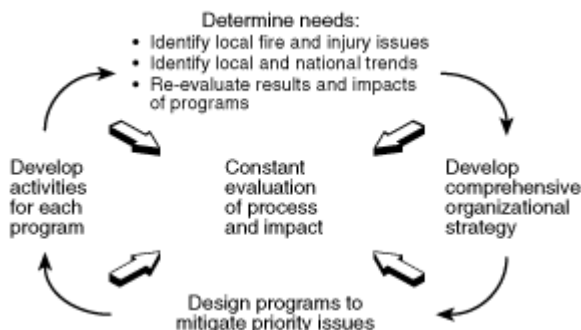


Figure A-2-2.1(b) Fire and life safety education program components.

The public fire and life safety educator should understand, access, and be able to clearly summarize relevant current local, state, and national statistics. This information is necessary for both the planning and evaluation of public fire and life safety education programs. Sources of information that accurately track fire incidence and nature of burn injuries vary among communities and can be limited to local fire service and hospital records. State and national data, such as National Fire Information Incident Reporting System (NFIRS) and the Burn Registry, can be used to justify local programming, but the more accurate and community-specific this information is, the more likely it is that it can be used in a meaningful way. Public fire and life safety educators should determine and use those pertinent data sources that are available, participate in and encourage

systematic reporting where appropriate, and provide input into the modification and development of improved systems.

Organizational Resources for Public Fire and Life Safety Educators:

*Aircraft Rescue and Fire Fighting Working Group
American Burn Association
American Red Cross
American Trauma Society
Burn Awareness Foundation
Children's Television Workshop
Consumer Product Safety Commission
Federal Emergency Management Agency
International Association of Arson Investigators
International Association of Black Fire Fighters
International Association of Fire Chiefs
International Association of Fire Fighters
International Fire Service Training Association
International Society of Fire Service Instructors
National Association for the Education of Young Children
National Association of State Fire Marshals
National Fire Information Council
National Fire Protection Association
National Fire Sprinkler Association
National Safe Kids Campaign
National Safety Council
Oklahoma State University Fire Service Training
Pan Educational Institute
Shriners Burns Institute
United States Fire Administration*

(11) NFPA 1041, Standard for Fire Service Instructor Professional Qualifications (In Part)--

This standard identifies the professional levels of competence required of fire service instructors. The purpose of this standard is to provide minimum qualifications for fire service instructors. It is not the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements. This standard covers the requirements for three levels of progression, that is, Fire Service Instructor I, Fire Service Instructor II, and Fire Service Instructor III.

All job performance requirements for any level of fire service instructor shall be performed to a level of competence that shall be established by the authority having jurisdiction.

Instructor I. A fire service instructor who has demonstrated the knowledge and ability to deliver instruction effectively from a prepared lesson plan, including instructional aids and evaluation instruments; adapt lesson plans to the unique requirements of the students and authority having jurisdiction; organize the learning environment so that learning is maximized; and meet the record-keeping requirements of authority having jurisdiction.

Instructor II. A fire service instructor who, in addition to meeting Instructor I qualifications, has demonstrated the knowledge and ability to develop individual lesson plans for a specific topic including learning objectives, instructional aids, and evaluation instruments; schedule training sessions based on overall training plan of authority having jurisdiction; and supervise and coordinate the activities of other instructors.

Instructor III. A fire service instructor who, in addition to meeting Instructor II qualifications, has demonstrated the knowledge and ability to develop comprehensive training curriculum and programs for use by single or multiple organizations; conduct organization needs analysis; and develop training goals and implementation strategies.

The specialized and hazardous nature of fire service requires that applicants become qualified in their area of specialty. The NFPA committee recognizes it is important that fire service instructors be competent in that area of specialty. The fire service instructors should also possess the physical abilities necessary to conduct instruction in the specialty area. It is not within the scope of this committee, nor is it their intent, to define minimum levels of specific subject matters, knowledge, or proficiency required by instructors.

These minimum levels should be determined by the authority having jurisdiction.

Education--

In developing the fire service instructor standards, the committee identified certain objectives that it found necessary to qualify fire service instructors at the three levels of progression. It was not the intent of the NFPA committee to establish standardized instructor training programs, but to utilize programs already in existence throughout the country. The knowledge and skills required to perform the stated objectives can be obtained from various sources such as state fire service training agencies, vocational-technical institutions, community colleges, universities, self-study, experience, and other educational mediums.

The NFPA committee realizes that some instructor candidates might qualify at the various levels without formal training, and although formal training is not a prerequisite, it is strongly recommended that every fire service instructor successfully complete approved formal courses of instruction and attend periodic

career development and improvement courses, and remain active within a fire service training program.

The training manager can be either a uniformed officer or a civilian. The manager should have experience in fire service training, a clear understanding of the fire department culture, structure, operations and mission, adult learning principles, course development, instructional methods, and evaluation of training. This individual should also be an effective leader and manager who can determine the training needs of the organization, develop goals and objectives to achieve those needs, implement training programs, evaluate the effectiveness of training, and develop the resources needed to sustain an effective and efficient training program.

The management of fire service training programs requires a manager, regardless of fire service affiliation or level of instructor certification, who is able to accomplish the following tasks:

- 1. Budgeting*
- 2. Resource management*
- 3. Management of personnel*
- 4. Management of instruction*
- 5. Program evaluation*
- 6. Training needs analysis*
- 7. Scheduling*
- 8. Goal setting*
- 9. Networking with other training agencies*
- 10. Technical writing*
- 11. Effective verbal and written communication*

(12) NFPA 1051, Standard for Wildland Fire Fighter Professional Qualifications (In Part)--

This standard shall identify the minimum job performance requirements for wildland fire duties and responsibilities. The intent of the standard shall be to define progressive levels of performance required for the identified levels of Wildland Fire Fighter I, Wildland Fire Fighter II, Wildland Fire Officer I, and Wildland Fire Officer II. The standard shall also include the positions of Wildland/Urban Interface Coordinator and Wildland/Urban Interface Protection Specialist. It shall not be the intent of this standard to restrict any jurisdiction from exceeding these minimum requirements.

(13) NFPA 1081 Standard for Industrial Fire Brigade Member Professional Qualifications (In Part)--

This standard identifies the minimum job performance requirements necessary to perform the duties of an individual who is a member of an organized industrial

fire brigade providing services at a specific facility or site. The purpose of this standard is to specify the minimum job performance requirements for industrial fire brigade members.

(14) NFPA 1403, Standard on Live Fire Training Evolutions (In Part)--

This standard shall contain the minimum requirements for training fire suppression personnel engaged in firefighting operations under live fire conditions. The minimum requirements for training shall comprise a basic system that can be adapted to local conditions to serve as a standard mechanism for live fire training. The purpose of this standard is to provide a process for conducting live fire training evolutions to ensure that they are conducted in safe facilities and that the exposure to health and safety hazards for the fire fighters receiving the training is minimized.

(15) NFPA 1404, Standard for a Fire Department Self-Contained Breathing Apparatus (In Part)—

This standard shall contain minimum requirements for the training component of the Respiratory Protection Program found in NFPA 1500, Standard on Fire Department Occupational Safety and Health Program. The purpose of this standard shall be to specify the minimum requirements for respiratory protection training for the emergency response organization, including safety procedures for those involved in fire suppression, rescue, and related activities in a toxic or contaminated environment. The respiratory protection training program shall establish written operational policies and reinforce those policies through comprehensive training. This standard shall be used to support the requirement of 3.3.1 of NFPA 1001, Standard for Fire Fighter Professional Qualifications. The goal of achievement of these objectives shall be to help prevent accidents, injuries, and exposure to harmful environments and to help to develop an awareness of the critical importance of a respiratory protection program to the health and welfare of personnel who work in hazardous atmospheres.

(16) NFPA 1500, Standard on Fire Department Occupational Safety and Health Program (In Part)--

The purpose of this standard is to specify the minimum requirements for an occupational safety and health program for a fire department. This standard shall specify safety requirements for those members involved in rescue, fire suppression, emergency medical services, hazardous materials operations, special operations, and related activities.

The requirements of this standard are applicable to public, governmental, military, private, and industrial fire department organizations providing rescue,

fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services.

(17) NFPA 1561, Standard on Emergency Services Incident Management System (In Part)--

This standard shall contain the minimum requirements for an incident management system to be used by emergency services to manage all emergency incidents. The purpose of this standard shall be to define and describe the essential elements of an incident management system. This standard applies to organizations and other agencies that provide rescue, fire suppression, emergency medical care, special operations, and law enforcement. This standard also applies to other emergency services, such as public, military, or private fire departments; fire brigades; and other assisting and cooperating agencies.

(18) NFPA 1582, Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians (In Part)--

This standard shall contain medical requirements for members, including full-time or part-time employees and paid or unpaid volunteers. It also shall provide information for physicians regarding other areas of fire department medicine, including infection control and fireground rehabilitation.

These requirements are applicable to public, governmental, military, private, and industrial fire department organizations providing rescue, fire suppression, emergency medical services, hazardous materials mitigation, special operations, and other emergency services.

(19) NFPA 1521, Standard for Fire Department Safety Officer (In Part)—

The committee recognizes that accrediting bodies can be called upon to accredit certification systems from national jurisdictions that utilize standards other than those of the NFPA. It is the committee's strong opinion that accrediting bodies should take into account that the international community can, at their discretion, establish their own standards that can make it inappropriate to assess them by NFPA professional qualifications standards. It is the committee's opinion that applicant certifying entities from the international community should, at the entities' discretion, be evaluated based upon such national, provincial, or territorial standards as can exist in their own jurisdiction.

There is no nationally recognized standardized curriculum for fire-related, academic, degree-granting programs offered by institutions of higher education. Determination of curricula is the province of the institution awarding the degree(s). Consequently, a wide divergence is expected and should be taken into

account by the accrediting body. It is the committee's opinion that applicant institutions should be evaluated based upon their own self-defined curricula..

Impact: The NFPA documents are the best source documents to educate and training fire fighters. These standards are the measuring stick by which the industry will measure any new facilities performance. A complete set of these documents should be acquired and all individuals trusted with the training of the fire fighters should be well versed in the applications of these standards.

References:

NFPA 402, Guide for Aircraft Rescue and Fire Fighting Operations, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 403, Standard For Aircraft Rescue and Fire Fighting Services at Airports, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 424, Guide for Airport/Community Emergency Planning, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 405, Standard Practice for the Recurring Proficiency Training of Aircraft Rescue and Fire Fighting Services, 2004 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1000, Standard For Fire Service Professional Qualifications Accreditation and Certification Systems, 2000 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1001, Standard for Fire Fighter Professional Qualifications, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1002, Standard for Fire Apparatus Driver/Operator Professional Qualifications, 1998 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1003, Standard for Airport Fire Fighter Professional Qualifications, 1998 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1006, Standard for Rescue Technician Professional Qualifications, 2000 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1021, Standard for Fire Officer Fighter Professional Qualifications, 1997 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1035, Standard for Professional Qualifications for Public Fire and Life Safety Educator, 2000 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1041, Standard for Fire Service Instructor Professional Qualifications, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1051, Standard for Wildland Fire Fighter Professional Qualifications, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1081, Standard for Industrial Fire Brigade Member Professional Qualifications, 2001 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1403, Standard on Live Fire Training Evolutions, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1404, Standard for Fire Service Respiratory Protection Training, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1500, Standard for Airport Fire Fighter Professional Qualifications, 1998 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1561, Standard on Emergency Services Incident Management System, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1582, Standard on Medical Requirements for Fire Fighters and Information for Fire Department Physicians, 2000 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

NFPA 1521, Standard for Fire Department Safety Officer, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101.

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